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ABSTRACT

A Talent Identification Project (TIP) has been successful in selecting, motivating, and assisting high school juniors and seniors with disadvantaged backgrounds who have potential for careers in the health sciences. Increases in TIP contacts in rural counties and efforts to provide more opportunities for rural background students at the University's School of Medicine have been followed by increases in the number of rural background students in general and TIP rural students in particular who apply to and enter the School of Medicine. Considering trends which suggest that rural background medical graduates are more likely than others to practice in rural areas, the picture for underserved rural areas seems more favorable as a result of the TIP. (CL)

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IDENTIFICATION OF RURAL-BACKGROUND MEDICAL SCHOOL APPLICANTS BY THE TALENT IDENTIFICATION PROGRAM OF THE WESTERN MISSOURI AREA HEALTH EDUCATION CENTER

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INTRODUCTION

One of the major goals of the Western Missouri Area Health Education Center (WMAHEC) is to help increase the supply of trained health science personnel in underserved parts of the 38-county area in which it has functioned since being established in 1972.

To help carry out this goal, WMAHEC has sponsored the Talent Identification Program (TIP) in order to identify, motivate, and assist high school juniors and seniors with disadvantaged backgrounds who have potential for careers in the health sciences.[1] As part of this effort TIP contacts and provides information and assistance to students who may be or may become interested in the health sciences.

In working to improve the supply of physicians in "shortage" areas in Western Missouri and other parts of Missouri, WMAHEC and the UMKC School of Medicine place particular emphasis on identifying potential medical students from rural areas and assisting them in applying and preparing for medical school. This policy is in accordance with evidence from Missouri and elsewhere suggesting that rural background students are more likely to practice medicine in rural areas after graduation than are non-rural students.[2] It also is in accordance with evidence that rural counties in Western Missouri have a shortage of physicians in comparison with non-rural counties.[3] Now at the end

of the first five-year funding period, TIP appears to be operating successfully in identifying and assisting potential medical students from rural backgrounds. Evidence documenting the operation and effects of the program in this regard will be presented in the remainder of this paper.

IDENTIFICATION OF STUDENTS THROUGH TIP

In order to identify potential health science talent, letters and information are sent explaining TIP's function to high school counselors, together with requests for permission to visit their schools. Counselors or principals wishing to have TIP staff visit their schools to further explain the health science training opportunities available in the WMAHEC region or elsewhere in the state of Missouri may then respond via mail or telephone to obtain a mutually convenient date.

If TIP receives no response to its communication, further attempts are made to communicate with that particular school later in the year. If, in the opinion of the high school counselor, there are no students who are interested in pursuing or able to pursue a career in the health sciences, no further attempts are made to visit that school until the following year. Thus TIP efforts in the 38-county area have been concentrated on visiting communities in which local school officials have been responsive to TIP's initial contacts.

To encourage promising young people in rural areas to enter medicine and other health science fields, TIP staff make a special effort to contact counselors and students in high schools in rural counties. For this purpose, rural counties are defined as those in the WMAHEC 38-county region which had 50,000 or fewer people in 1970. All but Buchanan, Clay, Jasper, Jackson, and Greene counties are rural by

this definition. TIP staff try to remain in close communication with schools in the 33 rural counties, and travel widely throughout the region to develop and maintain personal relationships with high school staff and potential health science students.

As shown in Figure 1, 1126 contacts were made with high school students in the 33 rural WMAHEC counties between 1972-73 and 1976-77.[4] The number of contacts per year in these counties generally has increased from 1972-73 when TIP was beginning to establish operating procedures and policies, to 1976-77 when staff had developed continuing relationships with high schools throughout the region. There were 59 contacts with rural students in 1972-73, 53 in 1973-74, 246 in 1974-75, 482 in 1975-76, and 286 in 1976-77.

SELECTION OF RURAL BACKGROUND STUDENTS AT THE UMKC SCHOOL OF MEDICINE

One indication that TIP efforts to recruit rural background students for health science careers have been succeeding can be found in records on application, admittance, and enrollment of students at the UMKC School of Medicine. Because the School of Medicine admits students into its six-year educational program directly from high school, these data make it possible to determine whether there has been a relationship between TIP contacts at rural high schools and entrance of rural background students into the UMKC medical school. (Many TIP students are guided and assisted to enter other medical schools but students in this category first obtain a regular college degree at institutions where it is difficult to keep track of their career plans.) These data also have obvious

implications with respect to assessment of WMAHEC efforts to help prepare more physicians for medically underserved communities.

Table 1 provides information on UMKC Medical School applications, admission, and entrance of students who received TIP assistance between 1973 and 1977. Years shown in the table refer to the entering first-year class. Thus 1977 refers to the entering class for the 1977-1978 academic year. All information in the table was provided by the Office of Admissions of the School of Medicine and by TIP.

As shown in Table 1, the number of TIP students applying for entrance, admitted, and entering the UMKC School of Medicine increased substantially between 1973 and 1977. The number of TIP applicants increased from 23 in 1973 to 55 and 51 in 1976 and 1977, respectively. The number of TIP students admitted increased from less than ten in 1973 through 1975 to 18 in 1976 and 19 in 1977. The number of TIP students that actually entered in the first-year class similarly increased to 16 in 1976 and 17 in 1977. TIP students constituted 6% of applicants, 11% of admissions, and 8% of the entering class in 1973; in 1977 TIP students accounted for 13% of the applications, 24% of admissions, and 21% of the students entering the first-year class. TIP's success in recruiting medical students with disadvantaged backgrounds is shown particularly by the fact that TIP students constituted nearly one-quarter of admissions in 1976 and 1977.

Table 1 also shows that recruitment of rural students accounted for a substantial part of the increase in TIP applicants, admissions, and students entering the UMKC School of Medicine between 1973 and 1977. Only one TIP applicant in 1973 and 1974 was from a rural county but by 1977 there were 18 rural background TIP applicants who constituted 35% of all TIP applicants. Correspondingly, rural background

TIP students accounted for 9% of students admitted to and entering the School of Medicine in 1976 and 1977 (combined) as compared with none for both categories for 1973 and 1974.

Figure 2 plots the number of TIP contacts with high school students in rural counties from 1972-1973 to 1976-1977 along with the number of students from these counties who received TIP assistance in applying for admission to the corresponding first year classes at the UMKC School of Medicine. For the 1973 and 1974 classes, after only 59 and 53 contacts respectively were made in rural county high schools, there was only one applicant from a rural county. For 1975, after 246 contacts were made in rural counties, there were 10 applications from rural TIP students; however, only 2 of these applicants were admitted to and entered the School of Medicine. Applicants identified through TIP receive help in filling out forms and preparing for the admissions process, but in 1975 the success rate of TIP applicants was still low. As mentioned above, only 20% of the rural applicants were accepted, and only 17% of the non-rural applicants were admitted.

At the beginning of the 1975-76 recruitment year, the TIP staff met with the Selection Council of the Medical School to discuss the academic and personal qualities sought in an applicant. Greater emphasis was placed thereafter in recruiting students who had a reasonable chance of being admitted. The recruitment staff, by this time, had experience in helping these students prepare for the admissions process. In its orientation for interviewers in 1976 and 1977, the Selection Council included a session dealing with characteristics of rural and minority students. At the same time, UMKC admissions and counseling personnel were extending their efforts to inform high school seniors throughout Missouri of health science education programs at the University.

The result of all these efforts was improvement in the acceptance rate for TIP applicants, in the number of TIP rural students entering the School of Medicine, and in the enrollment of rural background students in general. As indicated by the data in Table 1, in 1976 and 1977 there was an increase in the percentage of TIP applicants admitted to the School: for these two years combined, 44% of TIP rural applicants (14/32) and 31% (23/74) of TIP non-rural applicants were admitted to the entering classes. Thus the relatively high rate of TIP contacts in rural counties which was sustained in 1975-1976 and 1976-1977 resulted in the admission of 14 rural background students in 1976 and 1977.

In addition, the number of rural background students in general (TIP and non-TIP) in the School of Medicine entering classes also showed a sharp increase in 1975 and remained high for the following two years. As shown in Table 2, rural background students constituted 47% of the entering class in 1975, 38% in 1976, and 29% in 1977, as compared with only 18% and 14% in 1973 and 1974, respectively. A significant part of this increase is attributable to improvement in the number of TIP rural background students entering the School of Medicine. In 1975, for example, TIP rural students accounted for 20% (6/30) of the rural background students in the first year class, and for 60% (6/10) of the rural WMAHEC-area students. (Except for incidental assistance, TIP is not allowed to help candidates or students from outside its 38-county service area.) TIP rural students accounted for 35% (7/23) of the rural background students in 1977, and for 88% (7/8) of the rural background WMAHEC area students.

Of course it is possible that some or many of the TIP rural background students who have applied to or entered the School of Medicine beginning in 1975 might have sought to become physicians at UMKC or

elsewhere even if the TIP program had never been established. However, the fact that only one student from WMAHEC rural counties applied before 1975 and the rough correspondence shown in Figure 2 between TIP rural contacts and subsequent applications to the School of Medicine indicate that TIP has played an important part in generating candidates from rural counties.

Additional indications supporting the conclusion that TIP has been effective in identifying and assisting students from rural areas were found in comparing data on the counties in which TIP contacts were made with data on the county of origin of the 14 rural WMAHEC-area students admitted to the School of Medicine in 1976 and 1977. These students came from the following counties: Lafayette - 5; Cass - 2; Pettis - 2; and Andrew, McDonald, Newton, Nodaway, and Ray - 1 each. These eight counties accounted for 45% of the 1126 contacts TIP staff made in 33 rural WMAHEC counties between 1972-1973 and 1976-1977. Thus it would appear that the substantial effort apparently made to contact students in these counties resulted in a noticeable impact in terms of TIP rural background students entering the School of Medicine in 1976 and 1977.

CONCLUSION

Data on contacts made in rural counties in an effort to identify and assist potential medical students as part of the Talent Identification Program at UMKC and on applications, admissions, and entrance of rural background students at the School of Medicine indicate that the program has been effective in helping to enroll qualified rural students at the school. Increases in TIP contacts in rural counties and efforts to provide more opportunities for rural background students at the School of Medicine have been parallelled and followed by increases in the

number of rural background students in general and TIP rural students in particular who apply to and enter the School of Medicine.

As a result of these efforts, rural background students constituted 38% of the entering classes at the School of Medicine between 1975 and 1977, and TIP students accounted for 17% of this group. They also accounted for 52% of the rural WMAHEC students entering the School during this period, and for 72% of the rural WMAHEC students entering in 1976 and 1977. Based on past trends indicating that rural background Missouri medical graduates are more likely than others to practice in rural areas,[5] one can say that the UMKC School of Medicine and WMAHEC are now in a better position than they were before 1975 to help provide additional physicians for rural Missouri in the future.

WESTERN MISSOURI AREA HEALTH EDUCATION CENTER REGION

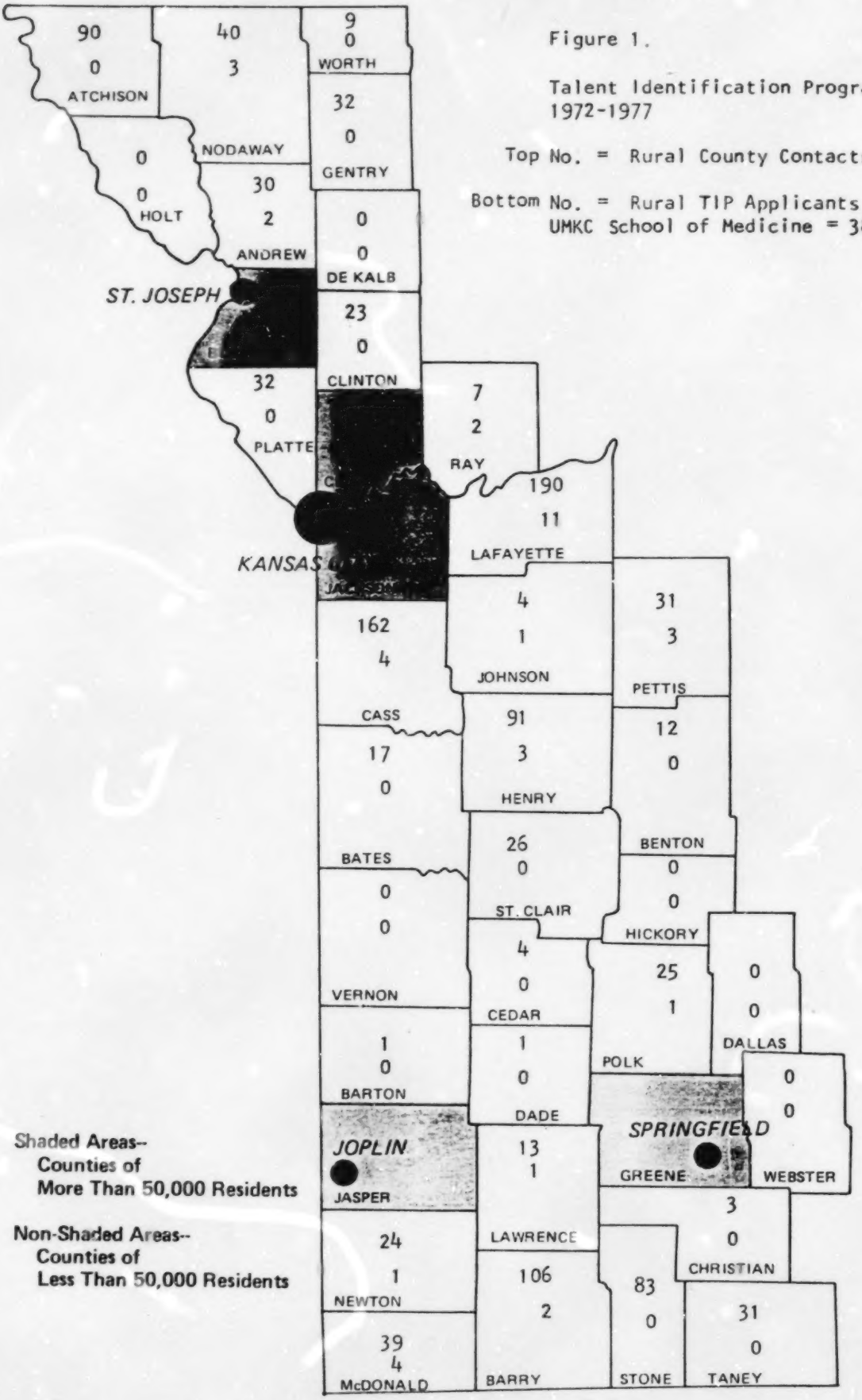

Figure 1.

Talent Identification Program
1972-1977

Top No. = Rural County Contacts = 1126

Bottom No. = Rural TIP Applicants to the UMKC School of Medicine = 38

Shaded Areas--
Counties of
More Than 50,000 Residents

Non-Shaded Areas--
Counties of
Less Than 50,000 Residents

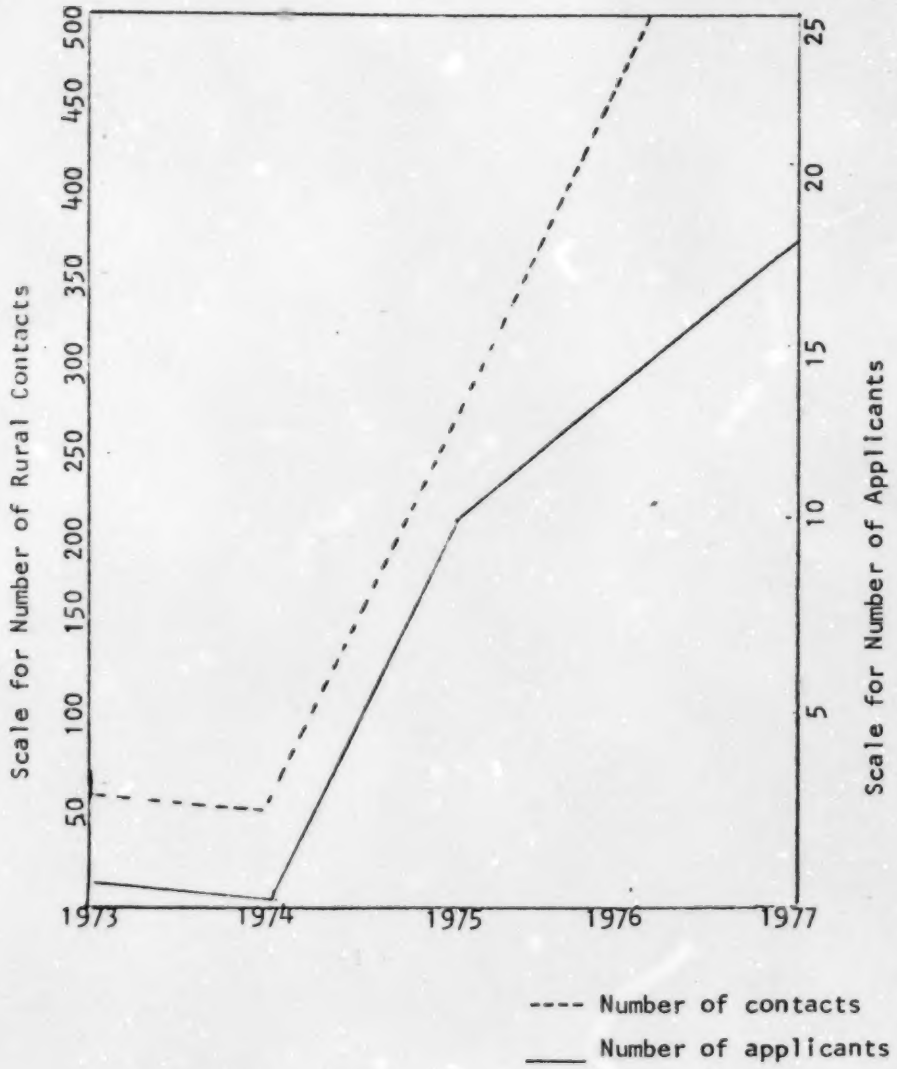

FIGURE 2

Number of Rural Contacts Compared with Number of Rural Applicants, 1973 to 1977

Contacts shown for 1973 were made during the 1972-1973 academic year. Applicants shown for 1973 were for the first year class entering in the fall of 1973.

TABLE 1

Talent Identification Program Students Applying For, Admitted To, and Entering the First-Year Class at the UMKC School of Medicine 1973 to 1977

	Applications			Admissions			Entering		
	Total Number	TIP Number and Percent*	Rural Background TIP Number and Percent	Total Number	TIP Number and Percent	Rural Background TIP Number and Percent	Total Number	TIP Number and Percent	Rural Background TIP Number and Percent
1973	375	23(06)	1(00)	80	9(11)	0(00)	72	6(08)	0(00)
1974	427	24(06)	0(00)	75	4(05)	0(00)	72	3(04)	0(00)
1975	455	45(10)	10(02)	77	8(10)	2(03)	72	7(10)	2(03)
1976	413	55(13)	14(03)	80	18(23)	6(08)	80	16(20)	6(08)
1977	381	51(13)	18(05)	80	19(24)	8(10)	80	17(21)	7(09)

*Percentages are shown in parentheses.

Table 2

Number and Percent of Rural Background Students Entering the UMKC School of Medicine Between 1973 and 1977, by WMAHEC and TIP Classification

	Number of Rural Students and Percent of Entering Class*	Number of Rural WMAHEC Students and Percent They Comprised of All Rural Students	Number of TIP Rural (WMAHEC) Students and Percent They Comprised of Rural WMAHEC Students
1973	13 (18)	4 (31)	0 (0)
1974	10 (14)	3 (30)	0 (0)
1975	34 (47)	11 (32)	2 (18)
1976	30 (38)	10 (30)	6 (60)
1977	23 (29)	8 (35)	7 (88)

*Percentages are shown in parentheses.

FOOTNOTES

[1] TIP and other WMAHEC programs are funded in large part by the Public Health Division of HEW. "Disadvantaged background" is defined to include low income or racial-ethnic family background or residence in a rural area.

[2] S. Cullison, C. Reid, and J. M. Colwill, "Medical School Admissions, Specialty Selection, and Distribution of Physicians," Journal of the American Medical Association, 235 (1976): 502-505.

[3] In 1976, the thirty-three rural counties had an average of 42 physicians per one hundred thousand population (using 1970 population figures) as compared with an average of 138 for the five remaining WMAHEC counties.

[4] Tabulations for Figure 1 excluded 736 contacts which were made in Gentry County in 1975-76 as part of a large group meeting with potential health science students rather than the usual individual and small-group sessions generally conducted by TIP staff.

[5] Cullison, Reid, and Colwill, op. cit.

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